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REMARKS

Claims 1-9 and 12-20 are pending in this application. By this Amendment, claims 10-11 are cancelled without prejudice to or disclaimer of the subject matter contained therein, and claims 1-9 and 12-19 are amended to recite features supported in the specification at, for example, page 6, line 1 – page 11, line 5 (corresponding to paragraphs [0019] – [0025] in U.S. Patent Application Publication 2005/0066662). No new matter is added by any of these amendments.

Reconsideration based on the following remarks is respectfully requested.

I. First Anticipatory Rejection under 35 U.S.C. §102

The Office Action rejects claims 1-20 as being allegedly anticipated under 35 U.S.C. §102(b) over U.S. Patent 6,123,069 to Davis. This rejection is rendered moot with respect to claims 10 and 11, and is respectfully traversed with respect to the remaining claims. This rejection is respectfully traversed.

Davis does not teach or suggest a power generation system including a decomposition chamber; a solid impellant material containing at least one of a peroxide and a superoxide; a solvent in the decomposition chamber to liquefy and chemically decompose the solid impellant material, thereby releasing thermal energy; a power generator to convert the thermal energy into at least one of mechanical energy and electrical energy; and a power transmission to transfer the converted energy for performing work, as recited in claim 1. Similarly, Davis fails to teach or suggest a process for releasing energy in an energy source that includes providing a decomposition chamber containing a solvent; dissolving a solid impellant material containing at least one of a peroxide and a superoxide; solubilizing the solid impellant material in the solvent to liquefy and chemically decompose the solid impellant material into a liquified peroxide for releasing thermal energy; converting the thermal energy into at least one of mechanical energy and electrical energy; and transferring the converted energy for performing work, as recited in claim 12.

For example, the specification discloses various exemplary aspects of a power generation system in which a solid impellant (210) is decomposed in a decomposition chamber (212) with a

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solvent to release thermal energy. A steam turbine (214) converts the thermal energy into mechanical energy to drive a shaft (218) for work output to, for example, a thruster (220). A thermoelectric generator (216) converts the thermal energy into electrical energy to power a direct current motor (222).

Instead, Davis discloses a system for generating breathable oxygen. In particular, Davis teaches an oxygen generator 5 that adds water 43 to sodium perborate anhydrous (NaBO_3) 49 to produce oxygen that is deodorized by activated charcoal 73, scrubbed of carbon dioxide (CO_2) with soda lime 31, and dried with silica gel 33, 75. See *e.g.*, col. 4, lines 34-39, 57-60; col. 5, lines 37-45 and Fig. 1 of Davis. Although Davis comments on heat generated from sodium percarbonate, this represents an undesired byproduct for oxygen generation purposes. See *e.g.*, col. 1, lines 60-64 and Fig. 1 of Davis.

A claim must be literally disclosed for a proper rejection under §102(a), (b) or (e). This requirement is satisfied "only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP §2131). Applicant asserts that the Office Action fails to satisfy this requirement with Davis, including features related to generating and converting thermal energy as well as transferring the converted energy into work.

II. Second Anticipatory Rejection under 35 U.S.C. §102

The Office Action further rejects claims 1-20 as being allegedly anticipated under 35 U.S.C. §102(b) over U.S. Patent 4,867,902 to Russell. This rejection is rendered moot with respect to claims 10 and 11, and is respectfully traversed with respect to the remaining claims. This rejection is respectfully traversed.

Russell does not teach or suggest a power generation system including a decomposition chamber; a solid impellant material containing at least one of a peroxide and a superoxide; a solvent in the decomposition chamber to liquefy and chemically decompose the solid impellant material, thereby releasing thermal energy; a power generator to convert the thermal energy into at least one of mechanical energy and electrical energy; and a power transmission to transfer the converted energy for performing work, as recited in claim 1. Similarly, Russell fails to teach or suggest a process for releasing energy in an energy source that includes providing a decomposi-

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tion chamber containing a solvent; dissolving a solid impellant material containing at least one of a peroxide and a superoxide; solubilizing the solid impellant material in the solvent to liquefy and chemically decompose the solid impellant material into a liquified peroxide for releasing thermal energy; converting the thermal energy into at least one of mechanical energy and electrical energy; and transferring the converted energy for performing work, as recited in claim 12.

Instead, Russell discloses encapsulation of alkali superoxide particles with a thin polymer coating to attenuate the reaction. See *e.g.*, col. 3, lines 20-60 of Russell. Although Russell identifies the reaction of potassium superoxide in water as sufficiently exothermic to conventionally require heat exchangers for thermal dissipation, this represents waste heat as an undesired byproduct of the reaction for the purpose of oxygen generation. See *e.g.*, col. 1, lines 44-64 of Russell.

A claim must be literally disclosed for a proper rejection under §102(a), (b) or (e). This requirement is satisfied "only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP §2131). Applicant asserts that the Office Action fails to satisfy this requirement with Russell, including features related to generating and converting thermal energy as well as transferring the converted energy into work.

III. Third Anticipatory Rejection under 35 U.S.C. §102

The Office Action rejects claims 1-20 as being allegedly anticipated under 35 U.S.C. §102(b) over U.S. Patent 4,598,552 to Weber. This rejection is rendered moot with respect to claims 10 and 11, and is respectfully traversed with respect to the remaining claims. This rejection is respectfully traversed.

Weber does not teach or suggest a power generation system including a decomposition chamber; a solid impellant material containing at least one of a peroxide and a superoxide; a solvent in the decomposition chamber to liquefy and chemically decompose the solid impellant material, thereby releasing thermal energy; a power generator to convert the thermal energy into at least one of mechanical energy and electrical energy; and a power transmission to transfer the converted energy for performing work, as recited in claim 1. Similarly, Weber fails to teach or suggest a process for releasing energy in an energy source that includes providing a decomposi-

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tion chamber containing a solvent; dissolving a solid impellant material containing at least one of a peroxide and a superoxide; solubilizing the solid impellant material in the solvent to liquefy and chemically decompose the solid impellant material into a liquified peroxide for releasing thermal energy; converting the thermal energy into at least one of mechanical energy and electrical energy; and transferring the converted energy for performing work, as recited in claim 12. In particular, an impellant releases thermal energy by decomposition, rather than by combustion

Instead, Weber discloses an energy source for a closed cycle engine. In particular, Weber teaches combining lithium 80 with water 70 in reactor chamber 14 to provide power to a turbine 18, and generating oxygen by dissolving sodium superoxide (or potassium superoxide) 82 in water. Applicant notes that lithium reacts by combustion to the oxygen in the water molecules, rather than by disassociation.

Weber also provides for combustion of hydrogen and oxygen to produce water. See e.g., col. 4, lines 29-67 and the diagram of Weber. Consequently, Weber generates power using lithium, rather than an impellant, in contrast to Applicant's claimed features. Moreover, Weber combines water with sodium or potassium superoxide to produce oxygen, rather than power through thermal energy conversion, again in contrast to Applicant's claims.

A claim must be literally disclosed for a proper rejection under §102(a), (b) or (e). This requirement is satisfied "only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP §2131). Applicant asserts that the Office Action fails to satisfy this requirement with Weber, including decomposition of an impellant to generate power.

IV. Applicant's Request

For at least these reasons, Applicant respectfully asserts that the independent claims are patentable over the applied references. The dependent claims are likewise patentable over the applied references for at least the reasons discussed, as well as for the additional features they recite. Consequently, all the claims are in condition for allowance. Thus, Applicant respectfully requests that the rejections under 35 U.S.C. §102 be withdrawn.

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V. Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,



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